

**New York City Department of Environmental Protection
Bureau of Water Supply**

**Stream Management Program
Request for Approval for Water Quality Stream Project:
West Kill above Wolff Road
(Schoharie Basin)**

November 2019

*Prepared in accordance with Section 4.6 of the NYSDOH
2017 Filtration Avoidance Determination*



Introduction

Water quality stream projects (WQSPs) are a core component of the New York City Department of Environmental Protection (DEP) Stream Management Program (SMP); they have a primary purpose of improving water quality, especially by reducing erosion of fine sediments that contribute to turbidity.

The 2017 Filtration Avoidance Determination (FAD) requires the SMP to design and complete construction of at least 24 WQSPs that have a principal benefit of water quality protection or improvement by December 31, 2027; at least eight of these 24 projects shall be in the Ashokan basin. By November 30 of each year, the FAD requires DEP to propose new WQSPs for approval by New York State Department of Health.

To date, 10 projects have been approved towards fulfillment of the 24 required WQSPs (Table 1); four of these projects are located in the Ashokan basin.

Table 1. Status of WQSPs towards fulfillment of the 2017 FAD requirement.

Project Name	Status	Length (feet)	Basin
Batavia Kill at Kastanis	Completed	3,800	Schoharie
Bush Kill at Watson Hollow	Completed	250	Ashokan
Batavia Kill at Red Falls Phase 1	Approved	2,700	Schoharie
Batavia Kill at Red Falls Phase 2	Approved	4,400	Schoharie
West Branch Neversink River at Clothes Pool	Approved	800	Neversink
Hillslope Stabilization at Bull Run	Approved	300	Pepacton
East Kill at Colgate Lake Road	Completed	650	Schoharie
Warner Creek Site 1	Approved	540	Ashokan
Warner Creek Site 2	Approved	560	Ashokan
Stony Clove above Jansen Road	Approved	1,600	Ashokan

Through this report, DEP formally requests NYSDOH approval for one additional project to be counted towards the 2017 FAD requirement: the West Kill above Wolff Road in the Schoharie basin (Figure 1).

Project Description: West Kill above Wolff Road

The West Kill originates on West Kill and Hunter Mountains and flows 9.5 miles to its confluence with the Schoharie Creek. The stream runs parallel to, and is intersected by, County Route 6 and State Route 42. These stream crossings have led to stream instability. The entire 31.2 square mile watershed falls within the Town of Lexington, in Greene County.

The proposed stream project was initially identified through the 2004 stream feature inventory (SFI) that informed the West Kill Stream Management Plan (2005). Due to the extent of active erosion, this site was established as a bank erosion monitoring site in 2005. At the time of the 2004 SFI, rip rap had recently been placed at the toe of the failing hillslope to provide protection from hydraulic erosion. During the severe flooding associated with Tropical Storm

Irene, the rip rap washed away and headcuts were actively moving up the channel leading to increased erosion into glacial till in the streambed and bank. Bank stability was reevaluated during the 2018 West Kill SFI and erosion continued with the channel thalweg still located against the toe of the slope. This has led to the ongoing failure that is contributing cobbles, boulders, and trees from the top of the slope (Figure 2).

The proposed stream repair project will halt the headcut that has led to erosion of the approximately 30-foot high and 500-foot long streambank (Figure 3). The best management practices proposed for this site may include minor modification of channel alignment, development of a stable floodplain bench along the failing slope and installation of grade control. The project design will include the installation of a combination of revetment, bioengineering and installation of native potted plants and seed mixes to provide streambank stability and a healthy riparian buffer on the lower slope. Construction of the project is planned for 2021.

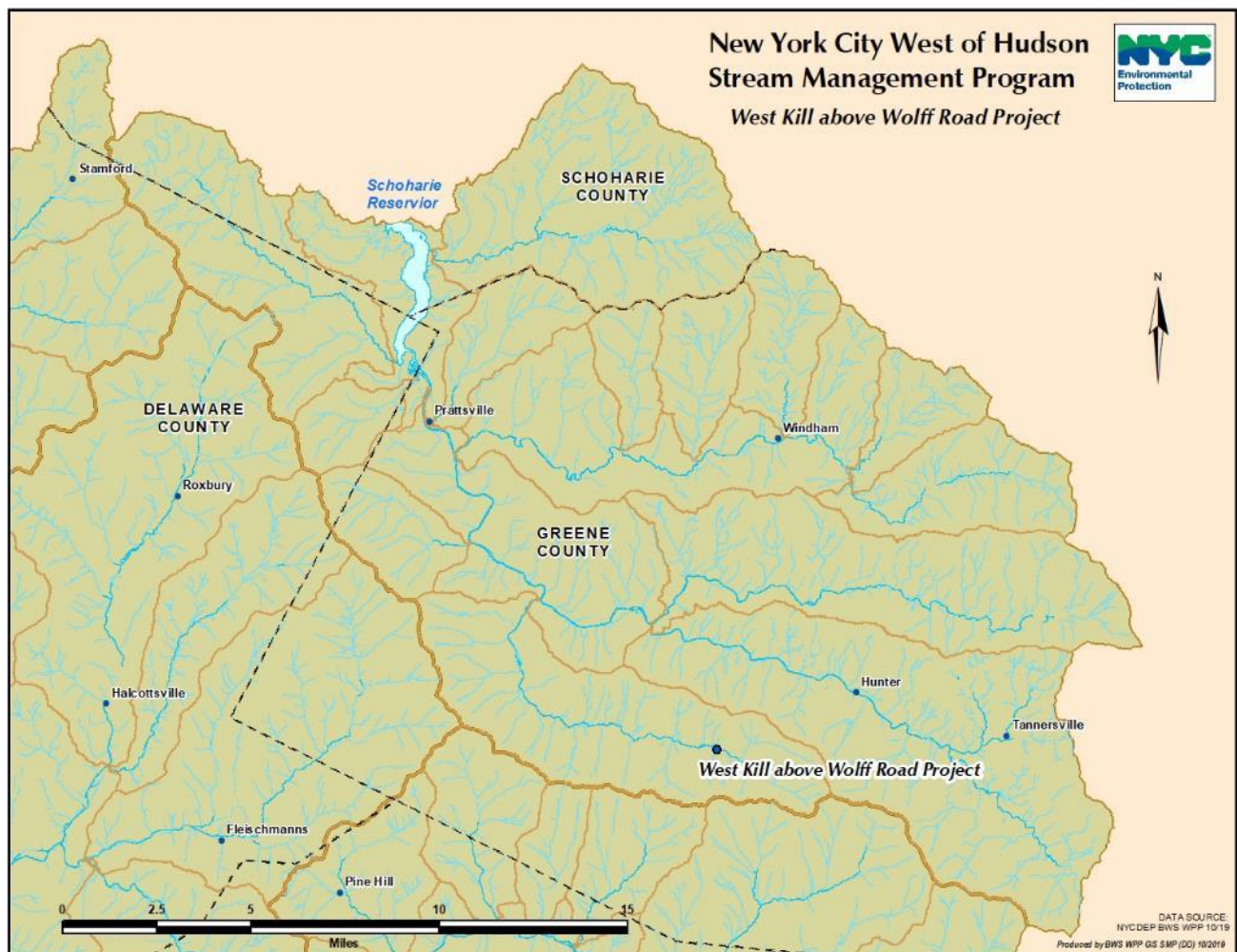


Figure 1. Location of the proposed West Kill above Wolff Road WQSP.



Figure 2. Primary hillslope failure at the West Kill above Wolff Road site.



Figure 3. Aerial photo of stream reach from 2016.